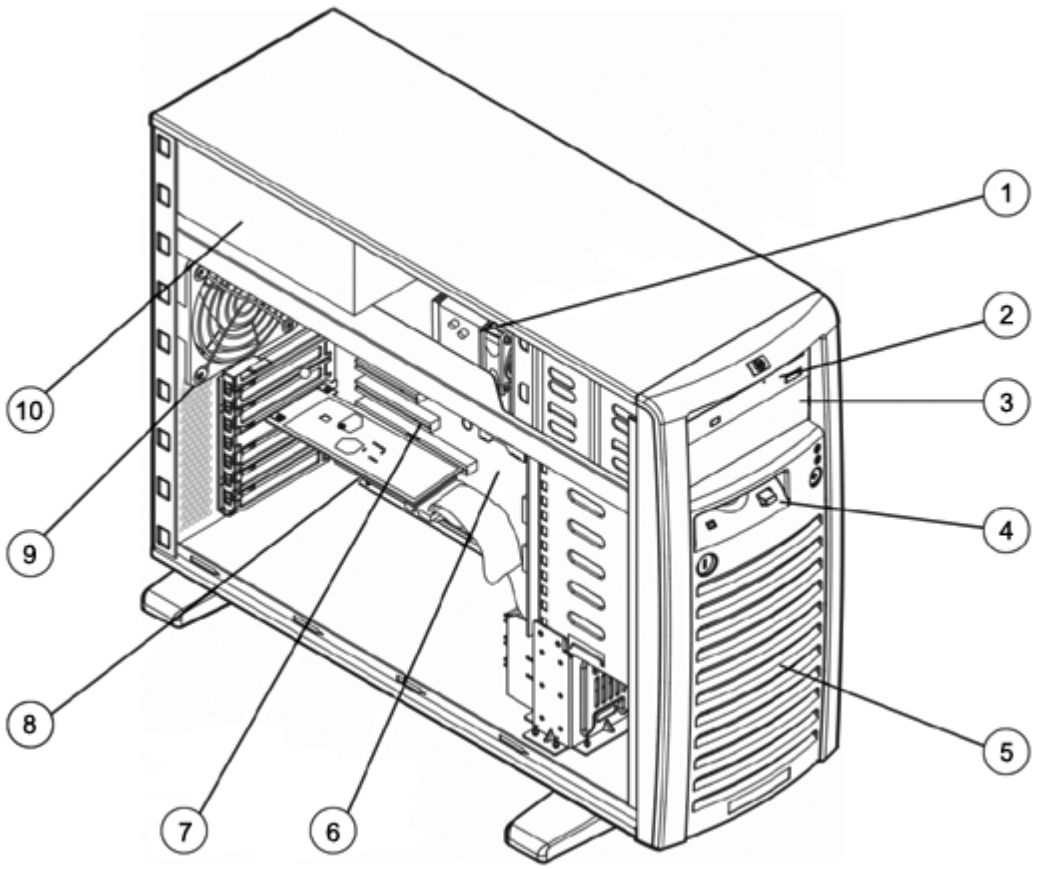
Overview



1. Intel® Xeon processor with 1 or 2MB level 2 cache
2. 48x CD-ROM
3. One Removable Media Bay (1.6")
4. 1.44 MB Diskette Drive
5. Six Drive Bays
6. Main System Board
7. Six PCI Slots (PCI-X or PCI-Express)
8. SCSI or SATA Adapter, depending upon model
9. System Fan
10. Power Supply

What's New

- Intel Xeon 2.8 GHz, 3.0 GHz, or 3.2 GHz processors with 1MB L2 cache; or 2.8 GHz, 3.0 GHz, or 3.2 GHz processors with 2MB L2 cache, dual processor capability.
- 800MHz Front Side Bus
- PC2700 DDR SDRAM memory (expandable to 8GB)
- PCI-X and PCI-Express expansion slots (one legacy PCI slot)

Overview

At A Glance

- Processors:
  - Intel® Xeon 2.8 GHz, 3.0 GHz, or 3.2 GHz processors with 1MB level 2 cache or 2.8 GHz, 3.0 GHz, or 3.2 GHz processors with 2MB level 2 cache standard (dual processor capability). Processors include support for Hyper-Threading and Extended Memory 64 Technology (EM64T)
  - Intel® E7320 chipset
  - 800MHz Front Side Bus
- Memory:
  - 512 MB of PC2700 DDR SDRAM standard (expandable to 8 GB)
- Storage Controller:
  - Slot-based Single Channel Ultra320 SCSI Adapter or 4 port SATA Adapter (depending upon model)
- Internal Drive Support:
  - Support for up to 6 Ultra320 SCSI hard drives
  - Support for up to 6 SATA hard drives with optional 6 Port SATA RAID Controller
  - Internal U320 SCSI storage capacity of up to 880GB (6 x 146GB U320 SCSI drives)
  - Internal SATA storage capacity of up to 2TB (4 x 500GB SATA drives) or up to 3TB (6 X 500GB SATA drives) with optional 6 Port SATA RAID Controller
  - Supports the HP External Backup Solution by Seagate for simple external backup
- Network Controller:
  - Single PCI-Express Gigabit NIC (embedded)
- Expansion Slots:
  - Six expansion slots: four 64-bit/66-MHz PCI-X (3 available), one x4 PCI-Express, and one 32-bit/33MHz PCI
- USB Ports:
  - Three USB 2.0 ports:- (2 rear, 1 Internal)
- Redundancy:
  - 600W Non-Hot Plug Power Supply
- Form Factor:
  - An entry level, (5U) tower server that delivers a balance of performance, manageability, and expandability at an aggressive price
- Management:
  - Optional HP ProLiant ML150 G2 Lights-Out 100 Remote Management Card allows you to manage server remotely
- Deployment/Serviceability:
  - Tool-free chassis entry and component access
- Additional Features:
  - Backed by HP's world class service and support, the ProLiant ML150 G2 offers expertise and capabilities from a best-in-class brand
  - With room for two Xeon processors, six I/O adapter cards, six hard disk drives, and four memory slots, the ProLiant ML150 G2 expands with your business
  - Integrated ATI Rage XL with 8MB SDRAM video
- Warranty
  - Protected by HP Services and a worldwide network of resellers and service providers. One-year Next Business Day, on-site limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI hard drives.

Standard Features

Processor NOTE: One of the following depending on Model	Intel Xeon Processor 3.2 GHz/800 -1MB L2 Intel Xeon Processor 3.0 GHz/800 -1MB L2 Intel Xeon Processor 2.8 GHz/800 -1MB L2 Intel Xeon Processor 3.2 GHz/800 -2MB L2 Intel Xeon Processor 3.0 GHz/800 -2MB L2 Intel Xeon Processor 2.8 GHz/800 -2MB L2	
Cache Memory	Integrated 1MB or 2MB level 2 cache (Depending on model)	
Upgradeability	Upgradeable to dual processing	
Chipset	Intel® E7320 Chipset with 800MHz Front Side Bus	
Memory	Type	PC2700 DDR SDRAM (333MHz)
	Standard	512 MB
	Maximum	8 GB
Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)	
Expansion Slots	I/O (6 Total, 5 Available)	PCI Voltage:
	64-bit/66MHz PCI-X 4 (3 available)	3.3 volts
	x 4 PCI-Express 1	3.3 volts
	32-bit/33MHz PCI 1	5 volts
Storage Controller NOTE: One of the following depending on Model	Single Channel Ultra320 SCSI Adapter in a PCI slot(SCSI Models) 4 port SATA Adapter in a PCI slot (SATA Model)	
Storage	Diskette Drive	1.44 MB Diskette Drive
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Hard Drives	36-GB 15,000 rpm hard drive included in non-hot plug SCSI models only
Maximum Internal Storage	SCSI Models	880GB (6 x 146GB SCSI drives)
	SATA Models	3TB (6 X 500GB SATA drives) with optional 6 Port SATA RAID Controller or 2TB (4 x 500GB SATA drives) with standard controller

Standard Features

Interfaces	Parallel	1
	Serial	1
	Pointing Device (Mouse, PS2)	1
	Graphics	1
	Keyboard (PS2)	1
	USB 2.0 Ports Dedicated USB	3 (2 Rear, and 1 Internal) NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html.
	Network RJ-45 (Ethernet)	1
Graphics	Integrated ATI RAGE XL Video Controller with 8 MB SDRAM Video Memory	
Form Factor	Tower (5U)	
Industry Standard Compliance	ACPI V1.0b compliant PCI 2.2 compliant PXE Support WOL Support Microsoft® Logo certifications Novell Logo certifications	
Manageability	Optional HP ProLiant ML150 G2 Lights-Out 100 Remote Management Card	
Security	Power-on password Setup password Diskette boot control	
Server Power Cords	One Lowline NEMA power cord NOTE: Tower models ship standard with a 6' country specific, lowline NEMA power cord. Localized cables included with geographic specific models in other world regions.	
Power Supply	600 Watts, non-hot plug, non-redundant	
System Fans	2 - Non-hot plug, Non-redundant system fans shipped standard	

Standard Features

OS Support

Microsoft Windows® 2000 Server
Microsoft Windows 2003 Server, Standard Edition (32 and 64 bit)
Microsoft Windows 2003 Server, Web Edition
Microsoft Small Business Server 2003
Novell NetWare 6.5
Novell NetWare SBS 6.5
Red Hat Enterprise Linux
SUSE Linux Enterprise Server
SCO Unixware 7.1.4
VMware Virtualization Software

NOTE: For an up-to-date listing of the latest ML150 OS support matrix, please see: http://www.hp.com/go/supportos

NOTE: For an up-to-date listing of the latest drivers available for the HP server ML150, please see: http://h18023.www1.hp.com/support/files/server/us/index.html

NOTE: For more information on HP's Certified and Supported ProLiant Servers, please visit the VMware Server Support Matrix at: http://h18004.www1.hp.com/products/servers/software/vmware/hpvmwarecert.html

NOTE: Drivers may also found on the base media for some Linux OS's. When configuring your server, please consult your base media driver base, or visit HP.com at: http://h18023.www1.hp.com/support/files/server/us/index.html

NOTE: For more Linux OS support & certification information, please visit our the ProLiant & Bladesystem Server Linux matrix http://h18004.www1.hp.com/products/servers/linux/hpLinuxcert.html

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Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging and custom packaging to meet customer needs. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant & HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSA1000, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services on your specific server model please contact your sales representative or go http://www.hp.com/go/factory-express.

HP Enterprise Configurator

The HP eCo-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance.

HP ProLiant Smart Buys (NA only)

The HP Smart Buy program offers mainstream business solutions at competitive prices with excellent availability and superior HP quality. It offers a wide range of industry-leading HP products at compelling prices, allowing you to receive richer configurations with additional options.
NOTE: ProLiant Smart Buys are available in NA only. For detailed specification information on ProLiant Smart Buys please click on the following link: ftp://ftp.compaq.com/pub/products/servers/smartbuys.pdf

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Standard Features

Service and Support

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of resellers and service providers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.

NOTE: Limited warranty includes 1 year parts, 1 year labor, 1-year on-site support (ROW) Limited warranty included 3 years parts, 1 year labor, 1 year on-site support (AP Only). Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

HP Care Pack services include coverage for the HP branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as 22" and smaller external monitors and tower UPS options up to 3kVA; these items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

HP services provide continuous care and support expertise with committed response designed to meet your IT and business needs.

To fully capitalize on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

Enhanced Care - Minimum recommended service support offer designed to ensure customers have access to expert assistance, whenever they need it.

- *Next Business Day on site coverage, 3 Years*

Continuance Care - Recommended service, delivering cost-effective support options designed to extend HP Services committed response and guaranteed fix times, designed to speed problem identification and resolution.

- *4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years*

Total Care - Highest HP Support service level recommend to help increase IT performance and availability with comprehensive, integrated hardware and software services

- *4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years*

Deployment Services - HP Installation and Start Up services designed to take time, risk, and worry out of the deployment of ProLiant servers - and free customers IT support staff to focus on what they do best, their business.

- *Installation of a ProLiant server as per Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays*

For a complete listing of service offerings and information visit:
http://www.hp.com/services/proliantservices
http://www.hp.com/go/proliant/carepack

Models

NOTE: ProLiant Smart Buys are available in NA only. For detailed specification information on ProLiant Smart Buys please click on the following link: ftp://ftp.compaq.com/pub/products/servers/smartbuys.pdf.

ML150T02 X3.2/800-2M HP-SCSI 380190-201	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported)
	Internal Storage	880GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

ML150T02 X3.2/800-2M NHP-SCSI36 380192-201	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	(1) 36GB Ultra320 SCSI 15,000 rpm Drive (up to 6 supported)
	Internal Storage	880GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

ML150T02 X3.2/800-2M HP-SATA 380188-001 380188-201	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	4 port SATA Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 HDD supported with optional 6 Port SATA RAID Controller; up to 4 HDD supported with standard SATA controller)
	Internal Storage	3TB (6 x 500GB SATA drives w/ optional 6 Port SATA RAID Controller) maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

Models

ML150T02 X3.0/800-1M HP-SCSI 366360-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported)
	Internal Storage	880GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM drive
	Form Factor	Tower (5U)

ML150T02 X3.0/800-1M NHP-SCSI36 366362-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	(1) 36GB Ultra320 SCSI 15,000 rpm Drive (up to 6 supported)
	Internal Storage	880GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

ML150T02 X3.0/800-1M HP-SATA 366358-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	4 port SATA Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 HDD supported with optional 6 Port SATA RAID Controller; up to 4 HDD supported with standard SATA controller)
	Internal Storage	3TB (6 x 500GB SATA drives w/ optional 6 Port SATA RAID Controller) maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM drive
	Form Factor	Tower (5U)

Models

ML150T02 X2.8/800-1M HP-SATA 366357-xx1	Processor	(1) Intel Xeon 2.8 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	4 port SATA Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 HDD supported with optional 6 Port SATA RAID Controller; up to 4 HDD supported with standard SATA controller)
	Internal Storage	3TB (6 x 500GB SATA drives w/ optional 6 Port SATA RAID Controller) maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

Country Code Key	XX=00	NA
	XX=01	Australia
	XX=03	UK
	XX=04	Germany
	XX=05	France
	XX=20	BRZ
	XX=29	Japan
	XX=37	AP
	XX=42	Euro
	XX=AA	PRC

NOTE: For Configure to Order requirements within EMEA region, please consult local Sales Contact.
NOTE: HP does not allow factory integration of options into standard models listed above.
Configure-to-order servers must start with a CTO Chassis.
NOTE: This product offering does not support HP Factory Express Server Configuration Level 1.
NOTE: FIO indicates that this option is a Factory Installable Option.

Step 1: Base Configuration (Select only one model from the following selections)

Models	HP ProLiant ML150 G2 Hot Plug SCSI Model (North America)	377880-405
	HP ProLiant ML150 G2 Non-hot Plug SCSI Model (North America)	377881-405
	HP ProLiant ML150 G2 Hot Plug SATA Model (North America)	377882-405
	Factory Integrated Models ship with:	
	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)	
	1.44MB Diskette Drive	
	Single 600W Power Supply	
	Tower 5U Form Factor	

Step 2: Choose Required Options (Select only one option from each category unless otherwise noted)

Processors	For single processor configuration choose:	
	X3.0/800-1M ML150G2 FIO	371542-L21
	NOTE: If 2 processors are desired, select one 371542-L21and one 371542-B21	
Base Memory	512 MB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 512 MB)	358347-B21
	1 GB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 1024 MB)	358348-B21
	2 GB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 2048 MB)	358349-B21
Optical Drives	48X CD-ROM Kit	377998-B21
	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
	HP DVD±RW 16X Half Height CBT Drive ALL	383974-B21

Step 3: Choose Additional Factory Integratable Options

Base Hard Drives	SATA - Hot Plug HDD (SATA Models Only)	
	HP 500GB 1.5G SATA 7.2K 3.5" HDD	395473-B21
	HP 250GB 1.5G SATA 7.2K 3.5" HDD	349239-B21
	HP 160GB 1.5G SATA 7.2K 3.5" HDD	349238-B21
	HP 80GB 1.5G SATA 7.2K 3.5" HDD	349237-B21
	Ultra320 SCSI - Hot Plug	
	HP 146GB U320 10K Universal HDD ML150G2	371535-B21
	HP 72GB U320 10 K Universal HDD ML150G2	377537-B21
	HP 36GB U320 15K Universal HDD ML150G2	371534-B21
	Ultra320 SCSI - Non-hot Plug	
	HP 146GB U320 10K NHP HDD	356990-B21
	HP 72GB U320 10K NHP HDD	332751-B21
	HP 36GB U320 15K NHP HDD	357012-B21

Options

NOTE: Some options may not be factory integratable. Please contact your local sales representative for additional information.

Processors	Intel Xeon 2.8 GHz /800MHz-1MB Processor Option Kit for ML150G2	371541-B21
	Intel Xeon 3.0 GHz /800MHz-1MB Processor Option Kit for ML150G2	371542-B21
	Intel Xeon 3.2 GHz /800MHz-1MB Processor Option Kit for ML150G2	371543-B21
Memory	512 MB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 512 MB)	358347-B21
	1 GB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 1024 MB)	358348-B21
	2 GB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 2048 MB)	358349-B21
Optical Drives	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
	HP DVD±RW 16X Half Height CBT Drive ALL	383974-B21
Hard Drives	**SATA - Hot Plug HDD (SATA Models Only)**	
	HP 500GB 1.5G SATA 7.2K 3.5" HDD	395473-B21
	HP 250GB 1.5G SATA 7.2K 3.5" HDD	349239-B21
	HP 160GB 1.5G SATA 7.2K 3.5" HDD	349238-B21
	HP 80GB 1.5G SATA 7.2K 3.5" HDD	349237-B21
	Ultra320 SCSI - Hot Plug	
	HP 146GB U320 10K Universal HDD ML150G2	371535-B21
	HP 72GB U320 10 K Universal HDD ML150G2	377537-B21
	HP 36GB U320 15K Universal HDD ML150G2	371534-B21
	Ultra320 SCSI - Non-hot Plug	
	HP 146GB U320 10K NHP HDD	356990-B21
	HP 72GB U320 10K NHP HDD	332751-B21
	HP 36GB U320 15K NHP HDD	357012-B21
160GB External HDD	HP External Backup Solution by Seagate (North America)	372914-001
	HP External Backup Solution by Seagate (EMEA)	372914-011
Storage Controllers	HP SC44Ge Host Bus Adapter	416096-B21
	64-Bit/133MHz Single Channel Ultra320 SCSI HBA ALL	374654-B21
	HP PL100 SCSI RAID Controller	355671-B21
	HP 6-Port SATA RAID Controller	372953-B21
	2 Port SATA RAID Cable Kit for ML150G2	379093-B21
	NOTE: 2 Port SATA RAID Cable Kit (P/N: 379093-B21) required when using the HP 6-Port SATA RAID controller (P/N: 372953-B21) and supporting more than 4 SATA hard disk drives.	

Options

Communications	HP NC110T PCI Express Gigabit Server Adapter	434905-B21
	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
	HP NC340T PCI-X Quad Gigabit Server Adapter	391661-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
Remote Management	HP ProLiant ML150 G2 Lights-Out 100 Remote Management Card	373043-B21
Tape Drives	NOTE: A separate SCSI Controller is required for connecting SCSI tape drives to this server.	
	DAT Tape Drives	
	HP StorageWorks DAT 40 SCSI Internal Tape Drive (Carbon)	C5686B
	HP StorageWorks DAT 72 SCSI Internal Tape Drive (Carbon)	Q1522B
	USB Tape Drives	
	HP StorageWorks DAT 24 USB Internal Tape Drive (Carbonite)	DW069A
	HP StorageWorks DAT 40 USB Internal Tape Drive (Carbonite)	DW022A
	HP StorageWorks DAT 72 USB Internal Tape Drive (Carbonite)	DW026A
	NOTE: For the complete listing of Tape Drive offerings for this server, please visit: http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html	
HP Data Protector Express Software	HP DP Express Backup Server Upgrade for ProLiant Software	BB117AP
	HP DP Express Package for Microsoft Small Business Server	BB118AA
	NOTE: Please see the HP Data Protector Express QuickSpecs for additional information regarding the purchase of HP Data Protector Express software: http://h18000.www1.hp.com/products/quickspecs/12337_div/12337_div.html (Worldwide)	
	NOTE: To obtain a free licensed copy of HP Data Protector Express for ProLiant edition software, please visit the "Protect Your Data" link accessible from your ProLiant server's System Management Homepage (SMH) software (SmartStart 7.5 or later).	
Uninterruptible Power Systems - Tower Supply	HP T750 UPS, Low Voltage (NA/JPN)	378439-D71
	HP T750 UPS, High Voltage (INTL)	378439-B31

Options

Installation of Server into Racks	Monitor/Utility Shelf (68 kg capacity)	253449-B21
	100Kg/220Lbs Sliding shelf (Graphite) NOTE: When using the100Kg/220Lbs Sliding shelf, install Stabilizer Kit for 5642 rack (PN 374493-B21).	234672-B21
	Stabilizer Kit for 5642 rack (Graphite Carbon) NOTE: The stabilizing kit is used to prevent rack from tipping over.	374493-B21
	600mm G2 Stabilizer Option Kit (Graphite) NOTE: When using the100Kg/220Lbs Sliding shelf, install 600mm Stabilizer Kit for 10622, 10636 and 10642 racks.	AF062A
	800mm Stabilizer Option Kit (Graphite) NOTE: When using the100Kg/220Lbs Sliding shelf, install 800mm Stabilizer Kit for 10842 racks.	255488-B21
	NOTE: Users wishing to place the ML150 G2 into a rack may also utilize the ML150 G2 rack kit from Rack Solutions to support both 2- and 4-post racks. http://www.racksolutions.com/hp	
HP Serial Console Server Options	HP 16-Port Serial Console Server (WW)	AF101A
	HP 48-Port Serial Console Server (WW)	AF102A
	Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
	Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A
	NOTE: For additional information regarding HP KVM Switches and options, please see the following URL: http://www.hp.com/go/kvm.	
USB Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	HP USB 04 Standard Keyboard	DT528A#xxx
	USB 2.0 4-port HUB	DG954A
	HP 1GB Drive Key II- USB 2.0 Flash Drive	AG382AA
	HP 512MB DriveKey II- USB Flash Drive	ED516AA
Service and Support Offerings (HP Care Pack Services)	*Hardware Services 4-Hour On-site Service*	
	13-Hour x 5-Day Coverage, 3 Years, Electronic	U8192E
	24-Hour x 7-Day Coverage, 3 Years, Electronic	U8193E
	Hardware Services Next Business Day On-Site Service	
	9-Hour x 5-Day Coverage, 3 Years, Electronic	U8184E
	Hardware Installation, Electronic	U8195E
	NOTE: For more information, customer/resellers can contact http://www.hp.com/services/carepack.	

Memory

HP ProLiant ML150 Generation 2 Server

Standard Memory

512 MB of PC2700 DDR SDRAM (333MHz)

Standard Memory Plus Optional Memory

Up to 5120 MB memory is available with the optional installation of PC2700 Registered ECC DDR SDRAM DIMM Memory kits.

Standard Memory Replaced with Optional Memory

Up to 8192 MB of memory is available with the removal of the standard 512-MB of memory and the optional installation of PC2700 Registered ECC DDR SDRAM DIMM Memory kits.

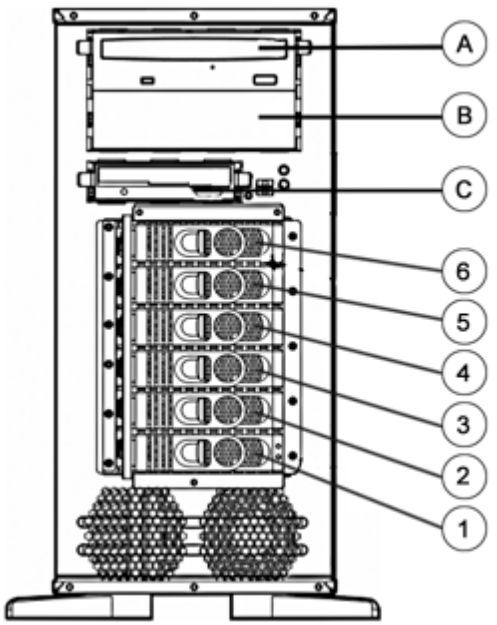
NOTE: Charts do not represent all possible memory configurations. Memory must be populated in one of the following ways: Slot 1 only; slots 1 and 2 only (pairs must be of the same size); or slots 1, 2, 3, and 4 (pairs must be of the same size and in the example below with slots 1 and 2 the same and slots 3 and 4 the same)

Memory		Slot			
		1	2	3	4
Standard	512 MB	Empty	Empty	Empty	512 MB
Optional	5120 MB	2048 MB	2048 MB	512 MB	512 MB
Maximum	8192 MB	2048 MB	2048 MB	2048 MB	2048 MB

Following are memory options available from HP:

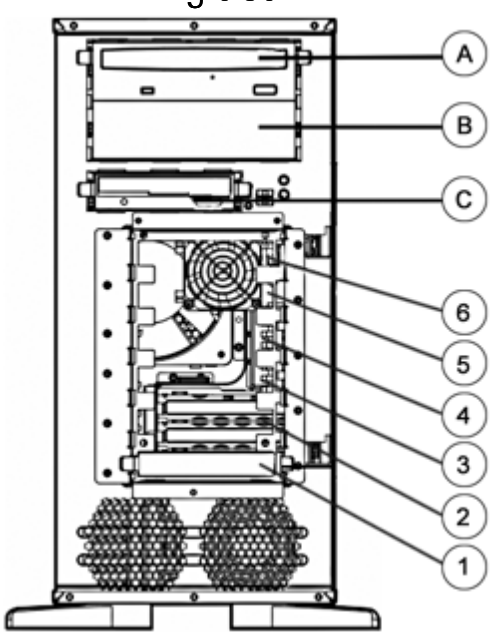
1024 MB Advanced ECC PC2700 DDR SDRAM DIMM Memory Kit (1 x 1 GB)	358348-B21
2048 MB Advanced ECC PC2700 DDR SDRAM DIMM Memory Kit (1 x 2 GB)	358349-B21
512 MB Advanced ECC PC2700 DDR SDRAM DIMM Memory Kit (1 x 512 MB)	358347-B21

Hot Plug SCSI Model



A	48x IDE CD-ROM
B	Removable Media Bay (1.6" each)
C	1.44 MB Diskette Drive
1, 2, 3, 4, 5, 6	Six Hot Plug SCSI Drive Bays

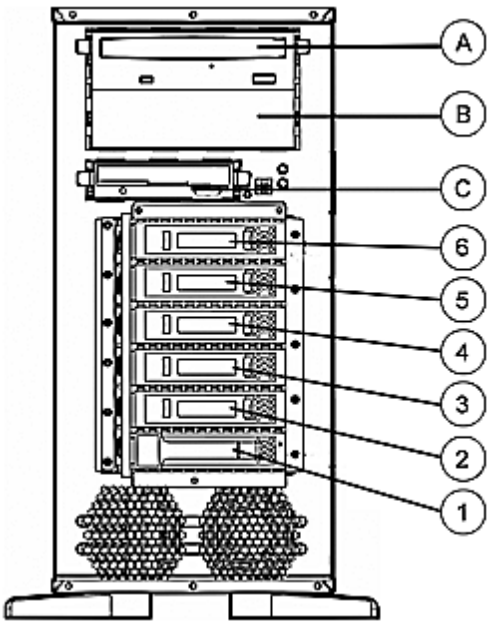
Non-Hot Plug SCSI Model



A	48x IDE CD-ROM
B	Removable Media Bay (1.6" each)
C	1.44 MB Diskette Drive
1, 2, 3, 4, 5, 6	Six Non Hot Plug SCSI Drive Bays

Storage

Hot Plug SATA Model



A	48x IDE CD-ROM
B	Removable Media Bay (1.6" each)
C	1.44 MB Diskette Drive
1, 2, 3, 4, 5, 6	Six Hot Plug SATA Drive Bays

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
1.44-MB Diskette Drive	Up to 1	C	Integrated IDE (ATAPI)
IDE CD-ROM Drive	Up to 2	A or B	Integrated IDE
48X Combo Drive Option Kit	Up to 2	A or B	Integrated IDE (ATAPI)

Hard Drives (SCSI Models only)

Ultra320 SCSI

	Quantity Supported	Position Supported	Controller
36GB 72GB 146GB	Up to 6	1,2,3,4,5,6	Slot based Single Channel Ultra3 SCSI Adapter (SCSI Models) o Optional SCSI RAID Controller

Storage

Hard Drives (SATA Models with optional HP 6-Port SATA RAID Controller)

7,200 rpm SATA

	Quantity Supported	Position Supported	Controller
	Up to 6	1,2,3,4,5,6	Optional HP 6-Port SATA RAID Controller
80GB			
160GB			
250GB			
500GB			

Hard Drives (SATA Models)

7,200 rpm SATA

	Quantity Supported	Position Supported	Controller
	Up to 4	1,2,3,4	Slot based 4 port SATA Adapter (SATA Models)
80GB			
160GB			
250GB			
500GB			

Maximum Storage Capacity - SCSI Models

Internal	880GB (6 x 146GB SCSI hard drives)
Total	880GB (6 x 146GB SCSI hard drives)

Maximum Storage Capacity - SATA Models

Internal	2TB (4 x 500GB SATA drives) or 3TB (6 X 500GB SATA drives) with optional HP 6-Port SATA RAID Controller
Total	2TB (4 x 500GB SATA drives) or 3TB (6 X 500GB SATA drives) with optional HP 6-Port SATA RAID Controller

Tape Drives

NOTE: A SCSI controller needs to be purchased to operate internal SCSI devices in the SATA and Hot Plug SCSI Model.
NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following: http://h18000.www1.hp.com/products/quickspecs/Division/10233.html (Worldwide)

	Quantity Supported	Position Supported	Optional Controller
HP StorageWorks Tape Drives, USB Internal DAT 24 USB DAT 40 USB DAT 72 USB	1	B	Embedded USB 2.0 port
HP StorageWorks Tape Drives, USB External DAT 24 USB DAT 40 USB DAT 72 USB	1 per USB port	External	USB 2.0 port

Storage

HP StorageWorks Tape Drives, Internal DAT 24 DAT 40 DAT 72	1	B	64-Bit/133MHz Single Channel Ultra320 SCSI HBA ALL
HP StorageWorks Tape Drives, External DAT 24 DAT 40 DAT 72	1	External	64-Bit/133MHz Single Channel Ultra320 SCSI HBA ALL

Power Specifications

Part Number	372986-001
Spare Kit	372783-001
Operational Input Voltage Range (Vrms)	90 to 135 and 180 to 264 V ac full ranging
Frequency Range (Nominal) (Hz)	47 to 63 Hz

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	600	600	600	600	600	600
Nominal Input Current (A rms)	10	10	5	5	5	5
Max Rated Input Wattage Rating (Watts)	800	800	750	750	750	750
Max. Rated VA (Volt-Amp)	800	800	780	780	780	780
Efficiency (%)	75	77	79	80	80	80
Power Factor	0.95	0.95	0.9	0.9	0.9	0.9
Leakage Current (mA)	3.5mA	3.5mA	3.5mA	3.5mA	3.5mA	3.5mA
Maximum Inrush Current (A peak)	50	50	50	50	50	50
Maximum Inrush Current duration (mS)	3	3	3	3	3	3

System Specifications

	Power**
HP ProLiant ML150 G2 Fully Configured	(see**)
Fully Loaded System Input Wattage (W)	420W
Fully Loaded System Input Current (A rms)	5A @ 115V, 2.5A @ 230V
Fully Loaded System Thermal (BTU- Hr)r)	1435 BTU
Fully Loaded System VA (Volt-Amp)	420
System Leakage with all power supplies loaded (mA)	3.5mA
System Inrush Current with all power supplies loaded (A)	50A
Power cord requirements	Nema 5-15P to IEC320-C13
	IEC320-C13 to IEC320-C14
**Power shown is for a fully configured system consisting of	
	(2) CPU (4) double-sided DIMMs (6) HDDs SCSI (1) CD-ROM (0) DVD-ROM (1) 1.44MB Diskette Drive (1) PCI express (1) PCI (3) PCI X (1) 600 watts power supply

Power Specifications

Power Cords (13 Cord Sets)	
Country	**Power Cord Part Number**
APD	100614-009, 100613-008, 139867-004, 187487-004(India)
Brazil	285052-001
Italy	109197-008
Australia/New Zealand	100661-001
Euro	100614-009
France	100614-009
Germany	100614-009
Japan	139867-004
PRC	286496-001
UK/Singapore	100613-008
US, Taiwan	121565-001

System Unit	**Dimensions** (HxWxD) (with feet)	17.56 in x 8.03 in x 21.3 in (44.6 x 20.4 x 54.1 cm)	
	Weight (approximate)	42 lb (17 kg)	
	Input Requirements (per power supply)	Range Input Voltage	90 to 135 VAC/180 to 265 VAC
		Normal Line Voltage	100 to 120/200 to 240 VAC
	Line Frequency	50 to 60 Hz	
	Rated Input Current	load 8A at 115VAC, 4A at 230VAC	
	BTU Rating	1907 BTU	
	SCSI Connectors (SCSI Models only)	One internal LVD/SE connector for U320 devices	
	Power Supply Output Power (per power supply)	Rated Steady-State Power	600W
		Maximum Peak Power	660W
	Temperature Range	Operating	50° to 93° F (10° to 35° C)
		Shipping	-40° to 150° F (-40° to 66° C)
	Relative Humidity (non-condensing)	Operating	20% to 80%
		Non-operating	5% to 90%
	Acoustic Noise	Idle (Fixed Disk Drives Spinning)	
		L WAd (BELS)	5.8
		Operating (Random Seeks to Fixed Disks)	
		L WAd (BELS)	6.0

*NOTE: All temperature ratings shown are for sea level. An altitude derating of 1° C per 304.8 m (1.8°F per 1,000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Upper operating limit is 3,048m (10,000 ft) or 70 Kpa/10.1 psia. Upper non-operating limit is 9,144 m (30,000 ft) or 30.3KPa/4.4 psia. System performance may be reduced if operating with a fan fault or above 30C.

**NOTE: Storage maximum humidity of 90% is based on a maximum temperature of 45° C (113° F). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.

Technical Specifications

Non-Hot Plug Ultra320 SCSI Hard Drives	36.4-GB Ultra320 SCSI 15,000 rpm Hard Drive 332751-B21	Capacity	36,419.2 MB	
		Height	1 in (2.54 cm)	
		Width	4 in (10.16 cm)	
		Interface	Ultra320 SCSI	
		Transfer Rate Synchronous (Maximum)	320 MB/s	
		Seek Time (typical reads, including settling)	Single Track	0.4 ms
			Average	3.8 ms
			Full-Stroke	8 ms
			Rotational Speed	15,000 rpm
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	71,132,000
		Operating Temperature	50° to 95° F (10° to 35° C)	

48X Max IDE (ATAPI) CD-ROM Drive	Disk	Applicable Disk	CD-ROM, CD-XA, CD-DA (Mode 1, Mode 2, Form 1 and 2) Photo CD (Single and Multi-session) Mixed Mode (Audio and Data combined) CD-R
		Capacity	540 MB (Mode 1, 12 cm) 650 MB (Mode 2, 12 cm)
	Block Size	Mode 1	2,048 bytes
		Mode 2	2,340 bytes, 2,336 bytes
		CD-DA	2,352 bytes
		CD-XA	2,328 bytes
	Interface	IDE (ATAPI)	
	Access Times (typical)	Random	<100 ms
		Full-Stroke	<150 ms
	Data Transfer Rate	Sustained	3000 to 7200 KB/s (20X to 48X)
		Burst	150 KBps to 7,200 KBps
		Bus Rate	16.7 MBp
	Cache Buffer	128 KB	
	Start-up Time (typical)	< 7 seconds	
	Stop Time	< 4 seconds	
	Laser Parameters	Type	Semiconductor Laser GaA1As
		Wave Length	780 ± 25 nm
	Operating Conditions	Temperature	41° to 113° F (5° to 45° C)
		Humidity	10% to 80%
	Dimensions	(HxWxD, maximum)	1.7 x 5.85 x 8.11 in (42.9 x 150 x 208 cm)
		Weight	2.09 lb (0.95 kg)

Technical Specifications

Slot based Single Channel Ultra3 SCSI Adapter (SCSI Models only)	**Drives Supported**	Up to 16 SCSI devices Wide
	Data Transfer Method	64-bit 66-MHz PCI-X bus-master
	SCSI Channel Transfer Rate	320 MB/s per channel
	Maximum Transfer Rate per PCI Bus (peak)	267 MB/s per channel
	SCSI Protocols	Wide Ultra4 SCSI, Wide Ultra2 SCSI, Wide Ultra SCSI-3, Fast-Wide SCSI-2, and Fast SCSI-2 Fast SCSI-2
	Electrical Protocol	Low Voltage Differential (LVD)
	SCSI Termination	Active Termination
	External SCSI Connectors	None
Slot based 4 port SATA controller (SATA Model Only)	**SATA Protocol**	SATA 1.5Gb/s
	SATA Ports	4 internal
	Port transfer rate	1.5 Gb/s total
	Drives Supported	Up to 4 SATA HDDs
	Data Transfer Method	32-bit/66-MHz PCI-X bus-master
	Storage Capacity	up to 1TB (4x 250GB hot plug 1" SATA HDD)
	PCI	3.3 volt PCI slot compatibility only
Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)	**Network Interface**	Ethernet Standards: IEEE 802.3, 802.3u, 802.3ad, and 802.3ab, 802.1x, 802.1Q and 802.1p
	Data Transfer Method	PCI Express
	Network Transfer Rate	10/100/1000 Mbps, Half- and full-duplex Auto-negotiated speeds of 10/100/1000 Mbps in both half and full duplex
	Connector	RJ-45 connector
	Cable Support	Category 5 or higher UTP wiring

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.